Scope of Claims

[1] An oil reconversion device for waste plastics characterized by the fact that in an oil reconversion device for waste plastics which performs thermal cracking by heating a waste plastic and converts the generated cracker gas into oil by cooling, and is equipped with a thermal cracking bath which has a bath main body placed inside a coil, induction-heats the bath main body by feeding a high-frequency current through the coil, and thermally cracks at least a molten plastic obtained from the waste plastic to generate a cracker gas, an injection port through which the waste plastic is injected, a feeder which supplies the waste plastic injected through the injection port to the thermal cracking bath via a forced or direct feeding means without a bath, and an oil conversion processor which cools and converts the cracker gas generated by the thermal cracking bath into oil.

[2] The oil reconversion device for waste plastics described in Item 1 of Scope of Claims characterized by the fact that the feeder is equipped, as a forced feeding means, with an extruder having a heating cylinder and an extruding screw which melts and extrudes the waste plastic injected into the injection port.

[3] The oil reconversion device for waste plastics described in Item 1 of Scope of Claims characterized by the fact that the feeder is equipped, as a direct feeding means, with a waste plastic injector which has a hopper to inject the waste plastic into the bath main body, has an open/close cap to open/close the injection port of this hopper and to open/close an injection path between the hopper and the bath main body, and is constructed so that an inert gas can be sent into the hopper.

[4] The oil reconversion device for waste plastics described in Item 3 of Scope of Claims characterized by the fact that the waste plastic injector has an injection pipe composing the injection path and is constructed by installing the open/close valve to this injection pipe and

installing an open/close damper to the injection pipe in the the bath main body side of the open/close valve.

[5] The oil reconversion device for waste plastics described in Item 3 of Scope of Claims characterized by the fact that the thermal cracking bath also functions as the melting bath which melts the waste plastic.

[6] The oil reconversion device for waste plastics described in Item 1 of Scope of Claims characterized by the fact that the thermal cracking bath is equipped with an agitating mechanism unit having an agitate-scraping unit which agitates a molten plastic contained in the bath main body and scrapes the molten plastic adhering to the inner wall of the bath main body.

[7] The oil reconversion device for waste plastics described in Item 6 of Scope of Claims characterized by the fact that the agitating mechanism unit is equipped with a heater which heats up the top surface of the molten plastic contained in the bath main body by being installed to the agitate-scraping unit.

[8] The oil reconversion device for waste plastics described in Item 1 or Item 6 of Scope of Claims characterized by being equipped with a residue processor which collects and heats residue plastic generated inside the bath main body and supplies a generated cracker gas to the oil conversion processor.

[9] The oil reconversion device for waste plastics described in Item 1 or Item 8 of Scope of Claims characterized by being equipped with an off-gas processor having a burn processor which burns an off-gas generated in the processes of sequentially processing the waste plastic at a specified temperature or higher.